

Teaching models for the socio-constructivism approach in modern school**Dr: Houria NEHARI***

*Scientific and Technical Research Center
for the Development of the Arabic
Language. Unit Tlemcen
(Algeria)*

h.nehari@crstdla.dz

Received: .../.../...

Prof: Mohammed KANTAOU

*University of Adrar
Desert Space Laboratory of Algerian
Narration
(Algeria)*

Kantaouimed201@gmail.com

الاستلام: ٢٠٢٤/٠٤/١٤ القبول: ٢٠٢٥/٠٥/٢٤
النشر: ٢٠٢٥/٠٦/٠٢

Abstract :

This paper aims at identifying sociopolitical paradigms, identifying their characteristics and identifying the most important educational models based on their principles, and raising many questions posed by educational actors: how can these principles be reflected in educational models within the classroom?

Socio-constructivism focuses on adopting teaching methods that contribute to raising the level of thinking and developing cognitive skills, as learning is a process of continuous and steady growth.

Key Words: socio-constructivism; knowledge; competencies; teaching models; Pradigm.

* Corresponding author: Dr: Houria NEHARI

Introduction :

on which the approach to competencies that was adopted in building curricula and modern educational programs was based. This cognitive paradigm is classified within cognitive learning theories that give priority to the learner's cognitive processes such as thinking, decision-making, and problem solving, in addition to both Gestalt theory and constructivist theory. It is also considered a branch of constructivism, and despite the many forms of constructivism, there are three basic types of this theory, which represent general trends in the constructivist school:

*Cognitive (or psychological) constructivism, which focused on the concept of the mental construction of knowledge and the role of mental processes in learning, and the pioneer of this approach was the Swiss psychologist **Jean Piaget**

*Social constructivism has been characterized by a focus on the social aspect in the process of learning and building knowledge. The origins of this approach go back to the Russian psychologist **Lev Vygotsky**

* Radical constructivism, which focused heavily on the adaptive aspect of the process of learning and building knowledge. It also exaggerated in the relativity of facts and knowledge. This approach is led by **Von Glasersfeld**.(Al-Abdul & bin Hussein, ١٤٣٢ , p. ١٤)

The constructivist approach agrees with the socio-constructivist approach in emphasizing that the learner is the maker of knowledge and the builder of learning, and it differs from it in that it attaches greater importance to the role of the learner's interaction with his peers and teacher in accelerating the process of cognitive development. By talking about the role of society and the adult in the learning process, he represents a transcendence and development of the theory. Piagetian constructivism.

Through his book "Competencies and Socio-constructivism," Junier (٢٠٠٢) sees that Socioconstructivism not a pedagogical method or direction. There is no existence of a Socioconstructivism method or a Socioconstructivism pedagogical project..Socioconstructivism is an epistemological paradigm for knowledge, and the epistemological paradigm for knowledge is a general reference framework. It evaluates the differentiation between the concepts and statements directed and guiding thought and action for those interested in issues related to the construction, acquisition, change, description, or development of knowledge (Junior, ٢٠٠٢, p. ٨٥)

٢. The concept of the socio-constructivist cognitive paradigm

Numerous writings have explored the definition of socioconstructivism, yet a consistent and comprehensive definition remains elusive. This is due to the term "constructivism" encompassing a wide array of diverse opinions and groups, making it challenging to establish a unified understanding(Khalifa, ٢٠١٠, p. ٢٨), and the terms describing it have varied, as it is also called social cultural theory to confirm it. The role of culture and society in learning. Although social

constructivism did not crystallize until the last two decades of the twentieth century AD, it was influenced by the writings of the Russian cognitive psychologist Lev Vygotsky, who believed that children's thinking and language begin as two separate functions, but they become interconnected in the pre-school years when children start using language as a tool for thought. Gradually, a child's learning is influenced by language, especially the knowledge associated with culture (Al-Abdul & bin Hussein, Social constructivist theory and its teaching applications in the curriculum, ١٤٣٢, p. ١٧). And it starts from three basic dimensions:

- The structural dimension of the process of possessing knowledge and building it by the knowing self.
- The interactive dimension of this process itself, where the self interacts with the subject of its knowledge
- The social (sociological) dimension of knowledge and learning, as it takes place in the school context and relates to knowledge encoded by a specific social group.

Accordingly, the socio-constructivist approach is a social constructivist, interactive approach (Junior, ٢٠٠٢, p. ١٠٠)

٢. Models of the socio-constructivist approach

The main idea of socioconstructivism is evident in the necessary transition from a “dual” psychology (interaction/individual–task) to a “three-dimensional” psychology (interaction/individual–task/ Trusted

accordingly Vygotsky defends the thesis that According to it, there cannot be cognitive growth without learning. The processes that depend on this growth are based primarily on the result of a triple analysis of the relationships: individual / task / person with confidence in a structured and organized process that includes guidance. This position contradicts the behavioral and constructivist concept. For mental growth, it also contradicts the Piagetian concept, which actually acknowledges that environmental and surrounding factors influence growth, but it makes cognitive development a state of dependency and attaches the processes of construction and integration to social variables, whether real or symbolic. Vygotsky believes that all higher mental functions (attention, and memory, and language..) emerge directly from social relations through interpersonal developmental changes to intrapersonal developments. For this reason, mental development cannot be viewed as an independent dimension in isolation from educational situations. It must be considered as a result of the learning that the child faces. There are growth processes and learning processes, but the growth processes follow the latter. These same learnings are what establish what Vygotsky called “the zone of proximale de

development.”(Roy, ٢٠١٣)

٤. **Socioconstructivism and knowledge construction**

Researchers Philippe Journet and FendriBouguet, in their work titled "Creating Learning Conditions," discuss Socio-constructivism as a perspective that contrasts with the behaviorist approach adopted by pedagogy through objectives. The reference is no longer limited to the contents of curricula as independent data from the learner, but the focus has shifted to the learner's knowledge as the primary subject of interest. In this context, three dimensions of this perspective have been identified: constructive, social, and interactive.

- The constructive dimension is based on two principles that are summed up in the fact that the self builds its knowledge through its own activity, and in the fact that the subject used during this activity is the special knowledge itself. These principles require the learner to engage in cognitive activity where they adapt their knowledge to the requirements of the situation they face.

- The social dimension is considered an essential component of learning, so that it is possible to talk about building and adapting knowledge without exchanging with others. It also takes on a dual character, such as exchange with peers and exchange with teachers. Dialogical spaces must be created to activate this triadic relationship between learners, teachers, and knowledge.

- The interaction dimension, Learning only occurs within situations where prior knowledge is adapted to the new. This means that the situation is the source and standard for acquiring knowledge, through which interaction occurs between the elements of the aforementioned triangle (teacher/learner/knowledge).(Al-Khattabi, ٢٠١٠, p. ١٤)

Thus we conclude that the socio-constructivist model considers knowledge to be the result of the activity of the individual who builds new knowledge and modifies his old knowledge and exists in a position of interaction with his environmental and societal surroundings within the framework of a dynamic process of building, adapting, and developing knowledge

٥. **Socio-constructivism and building educational competencies**

In the socio-constructivist perspective, knowledge is situated in a social and physical context. We can also determine that competencies are only determined according to situations, and therefore they are similar to knowledge in that they are also localized in a social and physical context.(Roy, ٢٠١٣) So the school content is the objectif, but rather a means to serve the treatment of situations. It is a true Copernican revolution, in this perspective, the teacher's task has become complex: creating situations to enable the student to Building knowledge and developing

competencies(Junior, ٢٠٠٢, p. ١٠٣)

Knowledge is built by the one who learns it and then retains it as long as it is retainable for him. If this retained knowledge is linked to other resources, it allows its producer to demonstrate a certain competence in a series of situations, and these situations should then not be significant for the student. Not only that, but it must also be suitable for existing social practices, because it is the latter that actually puts the learner's knowledge into question. the academic content is no longer decisive in learning, but rather the situations in which he can use this retained knowledge as a resource from Among other resources, in order to demonstrate a certain competence in a situation(Roy, ٢٠١٣)Knowledge and competencies are closely articulated within situations, and in such a perspective, the incompatibility between the concept of competency and the socio-constructivist paradigm is eliminated. What the concept of competency needs is to rid it of a priori definitions and to develop them within a situation(Junior, ٢٠٠٢, p. ١٠٤)

٧.Learning from a socio-constructivist perspective

In the last decade of the twentieth century, research began to explore constructivist teaching practices in various disciplines. One of the problems faced by the constructivist theory of learning was transforming this theory into teaching practices, as constructivism is a theory of learning and not a theory of teaching, which is what the elements of teaching appear to be. Constructivism is not precisely defined, Windschide sees that constructivist teaching is still presented in the form of teaching directives and has not reached a teaching model, and this is confirmed by Good and Brophy, who see that constructivism calls for a general approach to teaching and has not yet arrived at providing specific teaching practices. The same problem is presented in the socio-constructivist approach, except that some important strategies for teaching based on socio-constructivism are:

- Teaching in contexts that are meaningful to the learner.
- Negotiation among learners in shared meaning, assessing purposeful activity through correct responses
- Conceptual change model
- Generative learning model, reflecting Vygotsky's perspective on learning
- Cooperative learning

As they all focus on the impact of non-cognitive factors on learning and the development of teaching strategies that are used in real classroom contexts and the construction of meaning through social negotiation, they also focus on language as a tool that transmits social experience to individuals and forms the general climate of the classroom environment, and as a mediator of thinking and its role in

Development(Mustafa , ٢٠٠١, p. ١٠٤)

٦, ١. The learner in the socio-constructivist perspective:

The socio-constructivist perspective is based on the importance of socio-cultural variables in learning, meaning that the learner learns more in a social context, that is, the adoption of knowledge by the learners through exchange, participation, interaction and discussion with others. The most important qualities of the learner according to this perspective can be summarized as follows:

- The learner is the focal point of the educational learning process..
- Adapting education to the needs of learners.
- The learner experiences cognitive conflicts that make him search for solutions to problems, discuss his previous knowledge with his peers, and modify it according to new information and knowledge.
- The learner performs an intellectual activity where they adapt their knowledge to meet the requirements of the situation they face.
- The learner learns within situations, which situations are the source for acquiring knowledge, abilities, and skills.
- The learner has high abilities as he is the one who constantly discovers, verifies, analyses, builds and develops his knowledge(Barbazi, ٢٠١٥, p. ١١٨)

٦, ٢. The teacher in the socio-constructivist perspective:

Vygotsky believes that the role of the teacher in the educational process is to facilitate the learning process through interaction, discussions, and integrating social contact by dividing students into small groups within school classrooms.

- It becomes one of the sources from which the learner learns, not the main source.
- Engages learners in experiences that challenge previous concepts or perceptions for them .
- Encourages the spirit of inquiry and questioning by asking questions that stimulate their thinking, especially open-ended questions.
- Encourages constructive discussion among learners.
- He teaches information that is of interest to his students.
- Diversifies evaluation sources to suit different teaching practices.
- He is intelligent in choosing learning activities

٧. Socio-constructivist teaching models

There are a number of educational models and strategies that reflect the foundations of socio-constructivism, and which were designed on the basis of directed participation within the space of possible growth. Perhaps the most important of them are the following:

٧, ١. Reciprocal teaching model

It is an educational activity that takes the form of a mutual dialogue between the teacher and the students, or between the learners with each other, so that they exchange roles among themselves according to the skills involved, which are: predicting/ questioning/ clarifying/ summarizing. In this activity, each of them plays his role assuming that the teacher is leading the discussion, and reciprocal teaching is presented an opportunity to explore the content to be learned through group discussion with class students (Al-Deeb & Salam, p. ١٧٦)

٧, ١, ١. Steps for applying the reciprocal teaching model

- Distribute students into groups collaboration in the classroom.
- Presenting the lesson to the students in the form of reading material or selected from the prescribed textbook.
- Through the title, students predict what information and knowledge the lesson will contain.
- Students read the lesson silently with intense concentration (analytical reading)
- Students summarize the lesson, It is a good idea to use cognitive maps, appropriate organizations and tables.
- Students ask questions that come to their mind about the topic and discuss them together.
- Students clarify concepts and difficult points to classmates or with teacher intervention with them in dialogue.

٧, ١, ٢. Advantages of the reciprocal teaching model

- Easy to apply at all stages and and grades.
- Developing the ability to discussion.
- Possibility of using it in classes with large numbers.
- Increasing student achievement in all subjects.
- Developing the ability to understand.
- Developing students' self-confidence.
- Deep learning and substantial achievement.
- Developing students' leadership skills and develop it.
- Developing thinking skills through summarization and the conclusion.

٧, ١, ٣. The role of the teacher in reciprocal teaching

- Facilitates and simplifies the learning process.
- It contributes to building activities among learners to ensure the quality of the application.
- It contributes to constructing meaning for learners.
- Contributing to the design of educational situations for learners.
- Provide reinforcement to learners at the same time they need it.
- Work on Modeling strategy steps for learners.

٧, ١, ٤. The role of the learner in reciprocal teaching

- Contributing to the design of educational situations and activities with the teacher.
- Connecting their prior knowledge with new knowledge.
- Summarize what read it and identify the important paragraphs.
- Discussing with the teacher what they do not know.
- conclusion and applying new information about the topic.
- Predicting everything that is new.
- Conduct positive dialogue and discussion with colleagues and the teacher.
- Practicing thinking skills such as summarizing
- Take individual and collective responsibility(Kurd, ٢٠١٩)

7.2. Generative learning model

It is learning that includes the active construction of meaning through analysis, interpretation and integration of ideas, which takes place when the student generates relationships between the contents of new information in short-term memory and previous information in long-term memory. The generative education model is one of the basic assumptions of social constructivism, and one of the applications that depend on it. It emphasizes the process of generating meaning in a social context(Al-Banna & Al Suleiman, p. 177)

7.2.1. Stages of generative learning

A. The preliminary stage

- Guidance: The teacher prepares the academic climate and invites his students to learn a specific topic through a group of different questions or observations about scientific phenomena, so that these questions invite thought, while displaying some pictures that expose some of the problems proposed to be studied. Students in the constructivist environment work on their own with the teacher's guidance.
- Stimulating students' daily experiences: The teacher presents some puzzling matters, contradictory events, environmental issues, or different life situations, to stimulate students' thoughts and daily experiences about the subject of the lesson, which leads to students feeling the need to research and explore to reach the solution, taking into account that the questions and things presented to them are of the same nature. Link to previous information they have.
- Presenting students' ideas: Students' ideas are presented and negotiated with colleagues, while they carry out various activities to arrive at the answer.
- Interpreting students' ideas and building new ideas: The teacher and students interpret their ideas and discuss them with their classmates and teacher to build new idea .

B. Focus stage

The teacher divides the class students into small heterogeneous groups to focus on the target concepts or behaviors to be imparted to the students, while introducing scientific terminology and providing the opportunity for negotiation and dialogue

between the group students. Each group interprets the activities and solves its own questions in preparation for a general dialogue session with the teacher.

C. Challenge stage

At this stage, the teacher leads the entire class's discussion. The students' misconceptions are corrected, their misconceptions are replaced by the targeted scientific concepts, terminology is re-introduced, and what the learner knew before and after learning is challenged. The teacher also discusses the life situation questions that were presented in the preliminary stage, there is a comparison between the learner's knowledge and behaviors before and after new ideas.

D. Application stage

the teacher tries to find appropriate applications for the concepts, conclusions and solutions they have reached in other similar situations in life. It is known that a student's learning is measured by his ability to apply what he has learned in solving the problems he faces and his interpretation of various scientific phenomena, and everything that the student has learned becomes part of his values. And his behaviors with which he deals with members of his group (Al-Sharaa, 2013, p. 147)

7.3. Learner Participation Project Model

It is a project proposed by Brown and Campion, in which the teacher plays an important role as a coach who provides time-oriented experience, and in which learners investigate information and knowledge. It is a project based on reciprocal teaching and the Jigsaw method for cooperative learning, and the student's personal project forms a group interaction episode. From the psychological, educational and social dimensions and the interaction of the efforts of several stakeholders, in addition to the fact that the student is the focus of the educational process, the role of educational actors and the family is highlighted. Its construction is considered a complex process that can be developed continuously, as the educational guidance process is entrusted with basic tasks as it is an ongoing process concerned with ensuring the preparation and implementation of the student's personal project within the scope of the students' social and professional formation and integration, according to the system of ambitions and capabilities, in accordance with continuous monitoring of the student and measuring his progress based on an ongoing dialogue between The educational team and the student's family, within the framework of a methodology that seeks to develop his competencies and establish equal opportunities (Al-Gharbawi & Al-Fathi, ٢٠٠٧)

7.4. Cooperative learning model

It is an educational method based on organizing the class, through which the teacher divides the students into small groups, and each group consists of at least four individuals who cooperate with each other, interact among themselves, discuss ideas, and seek to solve problems with the aim of completing the tasks assigned to them (Al-Deeb O.-G. , Salam, Abdel Rahman, & Al-Azab, 2017, p. 148)

7.4.1. Principles of cooperative learning

The idea of cooperative learning is based on five main principles:

- ❖ **Face-to-face interaction:** This principle means that group members must sit together, interact and communicate verbally, exchange points of view,

and discuss in a rational and purposeful manner, in an effort to reach a common understanding and agreed-upon solutions.

- ❖ **Mutual interdependence:** This principle means that each individual in the group is an important element, and the other members of the group depend on him and have something to offer to support them in the works required of them. Each individual realizes that the success of the group is his personal responsibility as it is everyone's responsibility and they raise a slogan that says "The individual is for the group and the group is to the individual."
- ❖ **Positive communication:** This principle means that students should be able to communicate positively, be able to exchange ideas, and be able to present their points of view clearly and easily. Therefore, students must be taught positive, constructive social interaction skills, and the skills of working in small groups, so that they maintain group cohesion. And the motivation and harmony of its members.
- ❖ **The individual is responsible:** This principle means that each individual in the group bears responsibility for completing the work assigned to him on time, and with the required quality and degree of mastery.
- ❖ **Processing:** This means that the group members cooperate and carry out the work, but they must analyze their work and practice and come up with feedback about the extent of coordination, interaction and communication between them and the degree of effectiveness of all of this, as well as what is the degree of quality of the product? Then they decide how to improve their performance, how to deal with the tasks in better ways, how to strengthen and deepen the social relationships and educational interactions between them.

7.4.2. The role of the teacher in cooperative learning

We can summarize the role of the teacher in cooperative learning in the following points:

- Choosing the topic, its main titles, setting goals for it, and organizing the class and its management.
- Create groups and choose their format.
- Determine the main and sub-tasks of the topic and guide learning.
- Preparing for group work educational materials, identifying sources and accompanying activities.
- Providing learners with the necessary instructions for work, choosing a coordinator for each group periodically, and defining the role and responsibilities of the coordinator.
- To encourage learners cooperate and help each other.
- Conscious observation to share members of each group.
- Instructions for each group individually and provide assistance when needed.
- Making sure from the interaction of group members.

- link reflections after completing collaborative work, clarifying and summarizing what students have learned.
- Evaluating learners' performance, setting class assignments, and evaluating student achievement.

7.4.3. Students' roles in the cooperative group

The roles of students in the collaborative group can be summarized as follows:

A - Summary: He takes notes, formulates questions, conclusions, and answers. He also, in agreement with the rest of the group members, puts the studied topic in its final form. More than one individual may do this work, and whoever does it is required to be good in his style and ability to express.

B- The researcher: He is the one who collects the required materials, and communicates with other groups, the teacher, or other people, meaning that his mission is to search for other sources of knowledge.

C - The rapporteur or registrar: He is the one who records the group's decisions, follows up on the role of each one of them, and also edits the final report on the topic. Therefore, he must be distinguished (whenever possible) in his linguistic abilities and style of expression.

D - Monitor and reinforcer: He monitors cooperation among group members, and also encourages and enhances the contributions of individuals. He is a self-reinforcer and an external reinforcer at the same time. It is certain that these roles vary from time to time, and that some of them may not exist at a certain time. The distribution of these and other roles often occurs as a result of the natural behavior of group members. Teachers can also use other labels other than what we mentioned according to what suits them.

7.5. Cognitive apprenticeship model

This strategy was proposed by Collins and his colleagues and applied in classrooms in America in 1991 in order to overcome the problems of acquiring knowledge and keep the learner away from inactivity in accessing knowledge by stimulating mental skills and making the learning process clear to both the teacher and the learner and creating a link between what he learns theoretically and what he does practically requires transforming the role of the learner into the initiator and seeker of solutions to the problems he faces, and transforming the role of the teacher into a guide and mentor inside and outside the classroom. It is defined as "a trend on the basis of which learners can learn through assistance and guidance from the teacher." This Participation helps them accomplish tasks that are difficult to complete individually to achieve desired goals"(Shiaa & Wadih, 2019, p. 486)

7.5.1. Steps for applying the cognitive apprenticeship strategy

A. Modeling: The teacher presents the processes necessary to carry out the task, and the learner must observe the practical application. The teacher also names the tools and materials used, the reason for choosing them, and the role of each of them, as the learner's role represents monitoring, watching, and listening. The teacher presents the most important steps and asks the learners to listen to him and observe him. After that, the lesson is carried out in front of them (Abu Hadra, 2011, p. 164)

B. Training: It is one of the most important steps on which cognitive apprenticeship is based, as it observes the learners as they attempt to complete the task and helps them when needed.

C. Assignment: The teacher continues to provide assistance with the aim of giving the learners skills and supporting them through hints and general answers. He asks questions and asks them to answer them and promises them help in arriving at the correct answer, and then proceeds with practical application. The teacher plays the role of mediator and connects from general knowledge to general knowledge. process and directs them towards understanding and mastering the task (Abu Sneina & Ayes, 2013, p. 216)

D. Reflection: A method based on making learners review their efforts to complete the task and analyzing their performance and enabling them to compare their processes for solving the problem with those of the teacher.

E. Expression: Learners record their findings in an oral and written form and use any means to clearly express the results of their learning and knowledge and further the process of solving their problems. It can include discussion, clarification, presentation, and writing exchange so that the learners have a basis for interaction to improve the scope of understanding together (Shiaa & Wadih, 2019, p. 473).

F. Interpretation: It aims to make the teacher direct the learners' thinking so that they construct the concept in a meaningful way and prepare the appropriate classroom environment and ask them to provide him with the information and knowledge they have collected and help them process it and organize it mentally. At the end of the stage the learners reach a kind of agreement about the interpretations and solutions through negotiation. Discussion among themselves and dialogue with the teacher, which leads to deepening the methods used and the results proposed by them.

G. Exploration: In it, learners learn how to set achievable goals and work to achieve them, test hypotheses, and search for knowledge independently, that is, they reach final answers that summarize the scientific and practical importance of the educational situation, and the results are reached through direct intervention by the teacher.

7.5.2. The role of the teacher in the cognitive apprenticeship strategy

- Trainer and mentor.
- Encouraging integration into cooperative groups.
- Prepared with worksheets according to the lesson steps.
- Designed for classroom activities.

7.5.3. The role of the learner in the cognitive apprenticeship strategy

- Interactive participated in learning management and evaluation.
- Apply and generalize results to new situations.
- An interpreter of the relationships between concepts based on the results.
- A recorder of the observations and results he obtained (Shiaa & Wadih, 2019, p. 475)

Conclusion :

Adopting the socio-constructivist paradigm in the teaching and learning process provides many advantages, which we summarize as follows:

- Learner active: where the learner discusses, dialogues, debates, expresses opinions, hypotheses, and investigates, by listening, reading, induction, exploration, or thinking.
- Social learner: that is, students discover information themselves according to their interaction with each other.
- Learning in a democratic atmosphere: where there is the opportunity for active interaction between learners and between them and teachers.
- Language is an important learning tool: It focuses on language and its importance to transfer social experience to individuals.
- Effective teaching methods: focus sociologicalism relies on adopting teaching methods that contribute to raising the level of thinking and developing cognitive skills, as learning is a process of continuous and steady growth.

Bibliographie

- [١] Khalifa, W. M. (٢٠١٠). The effectiveness of a program in geography based on social constructivism using blended learning in cognitive achievement and developing water education skills and environmental beliefs among student teachers at the College of Education. Faculty of Education. Sohag University, Egypt.
- [٢] Mustafa , A. (٢٠٠١). *Modern trends in science teaching*. Cairo: Dar Al-Fikr Al-Arab.
- [٣] Roy, J. P. (٢٠١٣, ٤٧). ; *SocioConstructive and School Learning*. Consulté le ١٢ ١١, ٢٠٢٣, sur <https://smaala.forumactif.com/t١١٧٨-topic>
- [٤] Abu Hadra, S. (٢٠١١). *The effect of a method based on cognitive apprenticeship in teaching science to basic stage students in developing their creative thinking and problem-solving ability*. Oman: University of Jordan.
- [٥] Abu Sneina, O., & Ayesh, A. (٢٠١٣). The degree to which science and geography teachers employ beginners of the social constructivist theory in their teaching at the basic education stage in UNRWA schools in Jordan. (A.-N. University, Éd.) *Journal for Human Sciences Research*.
- [٦] Al-Abdul , K., & bin Hussein, R. (١٤٣٢). *Social constructivist theory and its teaching applications in the curriculum*. Saudi Arabia, King Saud University.
- [٧] Al-Abdul , K., & bin Hussein, R. (١٤٣٢). *Social constructivist theory and its teaching applications in the curriculum*. Saudi Arabia, King Saud University.
- [٨] Al-Banna, J. A., & Al Suleiman, S. A. (s.d.). *The results of using the generative learning model in modifying alternative perceptions in*

- mathematics and developing the problem-solving ability of community college students in Jordan*. Récupéré sur <https://onshr.nrme.net/detail٩٢١٧٨٥١٢٣.html>
- [٩] Al-Deeb, O.-G., & Salam, B. (n.d.). . (٢٠١٧). Socio-constructivist theory: its models and application strategies. *Journal of Educational Sciences*, ٣١.
- [١٠] Al-Deeb, O.-G., Salam, B., Abdel Rahman, M., & Al-Azab, M. (٢٠١٧). Social constructivist theory: its models and application strategies. *Journal of Educational Sciences*, ٣١.
- [١١] Al-Gharbawi, J., & Al-Fathi, M. (٢٠٠٧, ١ ٢٣). *The student's personal project: an introduction to defining the concept and interaction*. Retrieved ٢ ١٢, ٢٠٢٣, from <https://www.oujdacity.net/regional-article-٣٣٨٢-ar/regional-article-٣٣٨٢-ar.html>
- [١٢] Al-Khattabi, E.-D. (٢٠١٠). Frameworks of reference for pedagogical approaches. (E. a. books, Ed.) ٢.
- [١٣] Al-Sharaa, R. (٢٠١٣). The effectiveness of using the generative learning model "G.L.M" to teach mathematics in mathematical communication skills and systemic thinking among middle school students. (C. o. Education, Ed.) *Al-Fath*, ٩(٥٣).
- [١٤] Barbazi, A. (٢٠١٥). The learner in learning theories: from the passive self to the active self. *Journal of Educational Sciences*, ٦٣.
- [١٥] Junior, P. (٢٠٠٢). *Competencies and socioconstructivism* (Vol. ١). Maroc: Schools publishing and distribution company.
- [١٦] Kurd, M. (٢٠١٩, ٢ ٤). *Reciprocal teaching strategies*. Récupéré sur <https://almanahj.com/sa/id=٥٦٥٥>
- [١٧] Shiaa, K., & Wadih, A. (٢٠١٩). The effect of using the apprenticeship cognitive strategy on inferential thinking among second-year intermediate students in mathematics. 1. Issue ٣٥. *College of Education Journal*(٣٥).